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# 2 |

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1600

## RAW SEQUENCE LISTING

DATE: 06/04/2003

PATENT APPLICATION: US/09/475,158A

TIME: 07:55:56

Input Set : N:\Crf4\05082003\I475158.raw  
Output Set: N:\CRF4\06042003\I475158A.raw

1 <110> APPLICANT: Gardella, Thomas J.  
2 Kronenberg, Henry M.  
3 Potts, John T.  
4 Juppner, Harald  
5 <120> TITLE OF INVENTION: PTH Functional Domain Conjugate Peptides, Derivatives  
6 Thereof and Novel Tethered Ligand-Receptor Molecules  
7 <130> FILE REFERENCE: 0609.4780001  
8 <140> CURRENT APPLICATION NUMBER: US/09/475,158A  
9 <141> CURRENT FILING DATE: 1999-12-30  
10 <150> PRIOR APPLICATION NUMBER: US 60/114,577  
11 <151> PRIOR FILING DATE: 1998-12-31  
12 <160> NUMBER OF SEQ ID NOS: 74  
13 <170> SOFTWARE: PatentIn Ver. 2.1  
15 <210> SEQ ID NO: 1  
16 <211> LENGTH: 9  
17 <212> TYPE: PRT  
18 <213> ORGANISM: Homo sapiens  
19 <400> SEQUENCE: 1  
20 Ala Val Ser Glu Ile Gln Leu Met His  
21 1 5  
23 <210> SEQ ID NO: 2  
24 <211> LENGTH: 17  
25 <212> TYPE: PRT  
26 <213> ORGANISM: Homo sapiens  
27 <400> SEQUENCE: 2  
28 Leu Asn Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp  
29 1 5 10 15  
30 Val  
32 <210> SEQ ID NO: 3  
33 <211> LENGTH: 31  
34 <212> TYPE: PRT  
35 <213> ORGANISM: Artificial Sequence  
36 <220> FEATURE:  
37 <223> OTHER INFORMATION: modified PTH sequence  
38 <400> SEQUENCE: 3  
39 Ala Val Ser Glu Ile Gln Leu Met His Gly Gly Gly Gly Gly Leu Asn  
40 1 5 10 15  
41 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val  
42 20 25 30  
44 <210> SEQ ID NO: 4  
45 <211> LENGTH: 5  
46 <212> TYPE: PRT  
47 <213> ORGANISM: Homo sapiens

## RAW SEQUENCE LISTING

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Input Set : N:\Crf4\05082003\I475158.raw

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48 <400> SEQUENCE: 4
49     Ala Val Ser Glu Ile
50         1             5
52 <210> SEQ ID NO: 5
53 <211> LENGTH: 31
54 <212> TYPE: PRT
55 <213> ORGANISM: Artificial Sequence
56 <220> FEATURE:
57 <223> OTHER INFORMATION: modified PTH sequence
58 <400> SEQUENCE: 5
59     Ala Val Ser Glu Ile Gly Gly Gly Gly Gly Gly Gly Gly Gly Leu Asn
60         1             5             10             15
61     Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val
62         20             25             30
64 <210> SEQ ID NO: 6
65 <211> LENGTH: 31
66 <212> TYPE: PRT
67 <213> ORGANISM: Artificial Sequence
68 <220> FEATURE:
69 <223> OTHER INFORMATION: modified PTH sequence
70 <400> SEQUENCE: 6
71     Ala Val Ser Glu Ile Gln Leu Met His Gly Gly Gly Gly Gly Gly Gly
72         1             5             10             15
73     Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val
74         20             25             30
76 <210> SEQ ID NO: 7
77 <211> LENGTH: 9
78 <212> TYPE: PRT
79 <213> ORGANISM: Homo sapiens
80 <400> SEQUENCE: 7
81     Ala Val Ser Glu His Gln Leu Leu His
82         1             5
84 <210> SEQ ID NO: 8
85 <211> LENGTH: 17
86 <212> TYPE: PRT
87 <213> ORGANISM: Homo sapiens
88 <400> SEQUENCE: 8
89     Ile Gln Asp Leu Arg Arg Arg Phe Phe Leu His His Leu Ile Ala Glu
90         1             5             10             15
91     Ile
93 <210> SEQ ID NO: 9
94 <211> LENGTH: 31
95 <212> TYPE: PRT
96 <213> ORGANISM: Artificial Sequence
97 <220> FEATURE:
98 <223> OTHER INFORMATION: modified PTH sequence
99 <220> FEATURE:
100 <221> NAME/KEY: MOD_RES
101 <222> LOCATION: (31)..(31)

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/475,158A

DATE: 06/04/2003

TIME: 07:55:56

Input Set : N:\Crf4\05082003\I475158.raw

Output Set: N:\CRF4\06042003\I475158A.raw

102 &lt;223&gt; OTHER INFORMATION: AMIDATION

103 &lt;400&gt; SEQUENCE: 9

104 Ala Val Ser Glu Ile Gln Leu Met His Gly Gly Gly Gly Gly Leu Asn

105 1 5 10 15

106 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val

107 20 25 30

109 &lt;210&gt; SEQ ID NO: 10

110 &lt;211&gt; LENGTH: 5

111 &lt;212&gt; TYPE: PRT

112 &lt;213&gt; ORGANISM: Homo sapiens

113 &lt;400&gt; SEQUENCE: 10

114 Ala Val Ser Glu His

115 1 5

117 &lt;210&gt; SEQ ID NO: 11

118 &lt;211&gt; LENGTH: 31

119 &lt;212&gt; TYPE: PRT

120 &lt;213&gt; ORGANISM: Artificial Sequence

121 &lt;220&gt; FEATURE:

122 &lt;223&gt; OTHER INFORMATION: modified PTH sequence

123 &lt;220&gt; FEATURE:

124 &lt;221&gt; NAME/KEY: MOD\_RES

125 &lt;222&gt; LOCATION: (31)..(31)

126 &lt;223&gt; OTHER INFORMATION: AMIDATION

127 &lt;400&gt; SEQUENCE: 11

128 Ala Val Ser Glu Ile Gln Leu Met His Gly Gly Gly Gly Gly Gly Gly

129 1 5 10 15

130 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val

131 20 25 30

133 &lt;210&gt; SEQ ID NO: 12

134 &lt;211&gt; LENGTH: 15

135 &lt;212&gt; TYPE: PRT

136 &lt;213&gt; ORGANISM: Homo sapiens

137 &lt;400&gt; SEQUENCE: 12

138 Asp Leu Arg Arg Arg Phe Phe Leu His His Leu Ile Ala Glu Ile

139 1 5 10 15

141 &lt;210&gt; SEQ ID NO: 13

142 &lt;211&gt; LENGTH: 31

143 &lt;212&gt; TYPE: PRT

144 &lt;213&gt; ORGANISM: Artificial Sequence

145 &lt;220&gt; FEATURE:

146 &lt;223&gt; OTHER INFORMATION: modified PTH sequence

147 &lt;220&gt; FEATURE:

148 &lt;221&gt; NAME/KEY: MOD\_RES

149 &lt;222&gt; LOCATION: (31)..(31)

150 &lt;223&gt; OTHER INFORMATION: AMIDATION

151 &lt;400&gt; SEQUENCE: 13

152 Ala Val Ser Glu Ile Gly Gly Gly Gly Gly Gly Gly Gly Gly Leu Asn

153 1 5 10 15

154 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/475,158A

DATE: 06/04/2003

TIME: 07:55:56

Input Set : N:\Crf4\05082003\I475158.raw

Output Set: N:\CRF4\06042003\I475158A.raw

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155                               20                               25                               30
157 <210> SEQ ID NO: 14
158 <211> LENGTH: 93
159 <212> TYPE: RNA
160 <213> ORGANISM: Artificial Sequence
161 <220> FEATURE:
162 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH
163 sequence
164 <400> SEQUENCE: 14
165 gcuguuuccg aaauccagcu gaugcacggu ggugguggug gucugaacuc cauggaacgu 60
166 guugaauggc ugcguaaaaa acugcaggac guu 93
168 <210> SEQ ID NO: 15
169 <211> LENGTH: 93
170 <212> TYPE: RNA
171 <213> ORGANISM: Artificial Sequence
172 <220> FEATURE:
173 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH
174 sequence
175 <400> SEQUENCE: 15
176 gcuguuuccg aaauccagcu gaugcacggu ggugguggug guggugguuc cauggaacgu 60
177 guugaauggc ugcguaaaaa acugcaggac guu 93
179 <210> SEQ ID NO: 16
180 <211> LENGTH: 93
181 <212> TYPE: RNA
182 <213> ORGANISM: Artificial Sequence
183 <220> FEATURE:
184 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH
185 sequence
186 <400> SEQUENCE: 16
187 gcuguuuccg aaauccgugg uggugguggu ggugguggug gucugaacuc cauggaacgu 60
188 guugaauggc ugcguaaaaa acugcaggac guu 93
190 <210> SEQ ID NO: 17
191 <211> LENGTH: 34
192 <212> TYPE: PRT
193 <213> ORGANISM: Homo sapiens
194 <400> SEQUENCE: 17
195 Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Asn
196 1 5 10 15
197 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His
198 20 25 30
199 Asn Phe
201 <210> SEQ ID NO: 18
202 <211> LENGTH: 34
203 <212> TYPE: PRT
204 <213> ORGANISM: Homo sapiens
205 <400> SEQUENCE: 18
206 Ala Val Ser Glu His Gln Leu Leu His Asp Lys Gly Lys Ser Ile Gln
207 1 5 10 15
208 Asp Leu Arg Arg Arg Phe Phe Leu His His Leu Ile Ala Glu Ile His

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## RAW SEQUENCE LISTING

DATE: 06/04/2003

PATENT APPLICATION: US/09/475,158A

TIME: 07:55:56

Input Set : N:\Crf4\05082003\I475158.raw

Output Set: N:\CRF4\06042003\I475158A.raw

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209                20                25                30
210      Thr Ala
212 <210> SEQ ID NO: 19
213 <211> LENGTH: 37
214 <212> TYPE: PRT
215 <213> ORGANISM: Homo sapiens
216 <400> SEQUENCE: 19
217      His Ser Asp Gly Ile Phe Thr Asp Ser Tyr Ser Arg Tyr Arg Lys Gln
218          1                5                10                15
219      Met Ala Val Lys Lys Tyr Leu Ala Ala Val Leu Gly Lys Arg Tyr Lys
220          20                25                30
221      Gln Arg Val Asn Lys
222          35
224 <210> SEQ ID NO: 20
225 <211> LENGTH: 28
226 <212> TYPE: PRT
227 <213> ORGANISM: Homo sapiens
228 <400> SEQUENCE: 20
229      His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln
230          1                5                10                15
231      Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn
232          20                25
234 <210> SEQ ID NO: 21
235 <211> LENGTH: 29
236 <212> TYPE: PRT
237 <213> ORGANISM: Homo sapiens
238 <400> SEQUENCE: 21
239      Tyr Ala Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Gly Gln
240          1                5                10                15
241      Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Met Ser Arg
242          20                25
244 <210> SEQ ID NO: 22
245 <211> LENGTH: 27
246 <212> TYPE: PRT
247 <213> ORGANISM: Homo sapiens
248 <400> SEQUENCE: 22
249      His Ala Asp Gly Val Phe Thr Ser Asp Phe Ser Lys Leu Leu Gly Gln
250          1                5                10                15
251      Leu Ser Ala Lys Lys Tyr Leu Glu Ser Leu Met
252          20                25
254 <210> SEQ ID NO: 23
255 <211> LENGTH: 31
256 <212> TYPE: PRT
257 <213> ORGANISM: Homo sapiens
258 <400> SEQUENCE: 23
259      His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
260          1                5                10                15
261      Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly
262          20                25                30

```

RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 06/04/2003  
PATENT APPLICATION:    US/09/475,158A      TIME: 07:55:57

Input Set : N:\Crf4\05082003\I475158.raw  
Output Set: N:\CRF4\06042003\I475158A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:42; Xaa Pos. 1,3,5,6,7,8

Seq#:43; Xaa Pos. 1,2,3,4,5,7,8,10,12,15,16

## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/475,158A

DATE: 06/04/2003

TIME: 07:55:57

Input Set : N:\Crf4\05082003\I475158.raw

Output Set: N:\CRF4\06042003\I475158A.raw

L:835 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0  
L:866 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0

**STATISTICS SUMMARY**

PATENT APPLICATION: US/09/475,158A

DATE: 06/04/2003

TIME: 07:55:57

Input Set : N:\Crf4\05082003\I475158.raw  
Output Set: N:\CRF4\06042003\I475158A.raw

Application Serial Number: US/09/475,158A  
Alpha or Numeric or Xml: Numeric  
Application Class:  
Application File Date: 12-30-1999  
Art Unit: 1600  
Software Application: PatentIN2.1  
Total Number of Sequences: 74  
Total Nucleotides: 8530  
Total Amino Acids: 3760  
Number of Errors: 0  
Number of Warnings: 2  
Number of Corrections: 0

**MESSAGE SUMMARY**

341 W: 2 ((46) "n" or "Xaa" used)